

Kekaha Municipal Solid Waste Landfill Phase II Vertical Expansion Proposed Action Overview

November 23, 2022

The County of Kauaʻi, Department of Public Works (DPW), Solid Waste Division (County) is proposing a vertical expansion of Phase II the Kekaha Municipal Solid Waste Landfill (KLF) (Proposed Action). KLF is located 1.3 miles northwest of the town of Kekaha on the southwest side of the Island of Kauaʻi. The KLF encompasses approximately 98 acres of land within Tax Map Keys (TMK) 1-2-002:001 (por.) and 1-2-002:009, which are owned by the State of Hawaiʻi and administered by the Department of Land and Natural Resources (DLNR). Executive Order 1558 (signed April 27, 1953) and Executive Order 2872 (signed October 6, 1977) places the control and management of the lands underlying the KLF to the County of Kauaʻi. The KLF is situated adjacent to Kaunaliʻi Highway and approximately 1,700 feet (ft) from the shoreline of the Pacific Ocean. The location of the KLF and limits of the Proposed Action are shown in the attached Figure 1: Location Map.

HISTORY OF KLF

KLF is the only permitted municipal solid waste (MSW) landfill on the Island of Kauaʻi. The KLF is comprised of two distinct refuse fill areas identified as Phase I and Phase II. The KLF Phase I is a closed municipal solid waste (MSW) unlined landfill that began accepting solid waste in 1953 and ceased operations October 8, 1993. The KLF Phase II is an active MSW-lined landfill that began accepting solid waste on October 9, 1993. Phase II was originally permitted to reach a height of 37 ft above mean sea level (msl), but was permitted for vertical expansion in 1998, 2004, and 2013; the current maximum permitted landfill height of Phase II is 120 ft above msl. Phase II was also expanded laterally to include Cell 1 and Cell 2 in 2009 and 2019, respectively, to further extend the life of the facility. The current permitted landfill area of Phase II is 44.05 acres (inclusive of Cell I and Cell 2).

PURPOSE AND NEED

The purpose of the Proposed Action is to prolong the life of the KLF prior to exhausting the island's only permitted landfill airspace. The need arises because the currently permitted KLF Phase II is projected to reach capacity in January of 2027. The County understands there is a critical need to identify a long-term MSW capacity solution for the Island of Kauaʻi and is currently exploring alternatives. However, the planning, permitting, and implementation of any potential long-term MSW capacity solution is anticipated to require more than five years (i.e., would occur after January 2027), at which time the Island of Kauaʻi would be without a landfill for the safe disposal of MSW. The lack of a permitted MSW landfill would result in adverse effects on the environment and public health. Waste would not be properly disposed of and unsanitary conditions would pose serious risks to public health and the environment. The proposed vertical expansion of the currently permitted Phase II landfill is expected to add an additional two to four years of capacity to the KLF, depending on future waste intake rates and

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potential waste diversion strategies, thus providing landfill capacity until a long-term MSW capacity solution can be implemented.

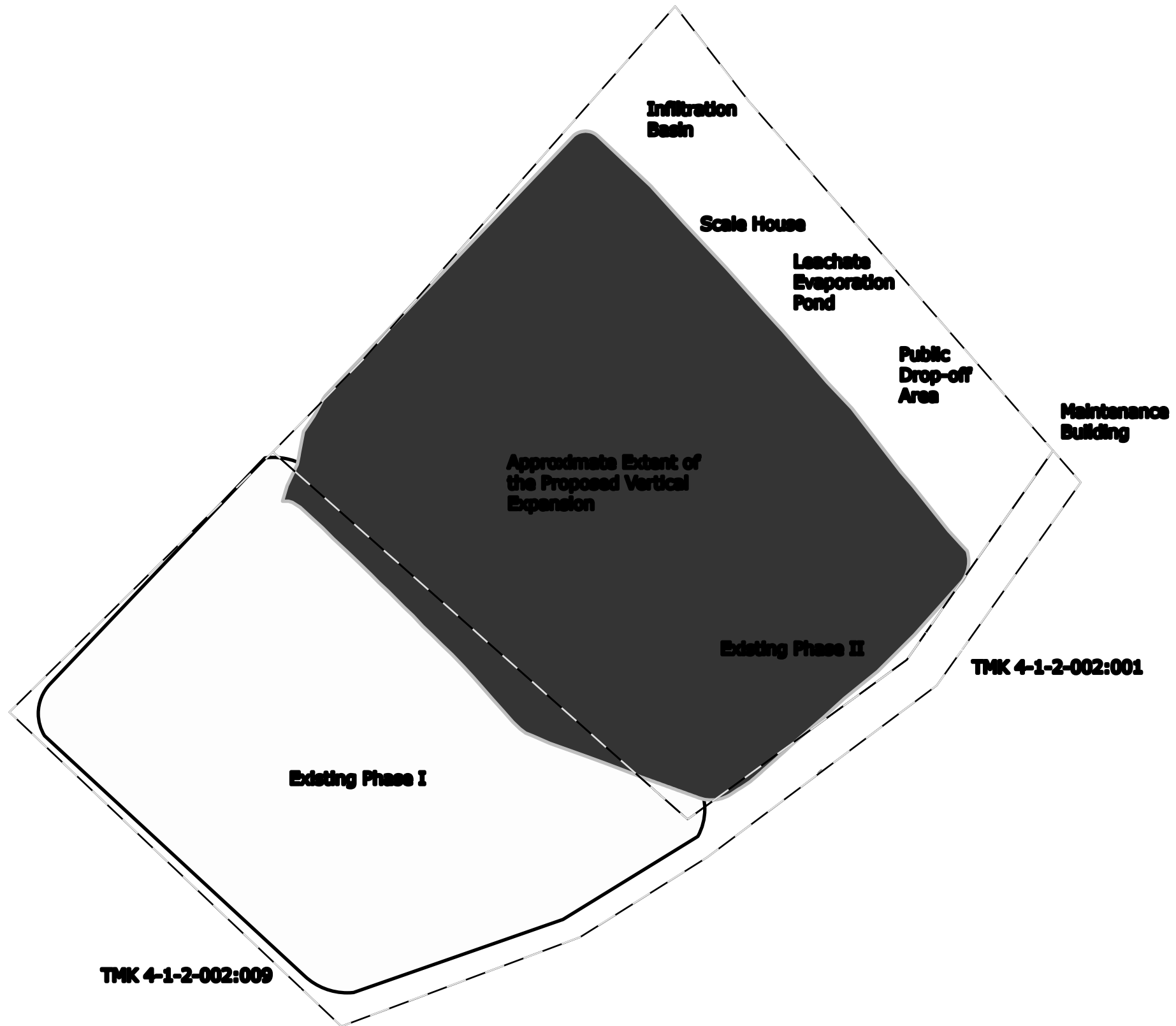
PROPOSED ACTION

The major components of the Proposed Action would include:

- **Vertical Landfill Expansion:** The proposed Phase II vertical expansion would extend the existing engineered waste disposal area upwards to a maximum height of 171.5 ft above msl, without altering the Phase II permitted limit-of-waste footprint of 44.05 acres. The limits of the proposed vertical expansion would be 13.01 acres located within the Phase II permitted limit-of-waste footprint (see Figure 1). The final landfill surface grades will be designed for seismic and slope stability, positive drainage off the landfill surface, and to maximize disposal capacity. New, all-weather access roads would be constructed to access the upper reaches of the landfill area. The total disposal anticipated capacity of the Proposed Action is 400,000 cubic yards.
- **Landfill Gas (LFG) Collection and Control System (GCCS):** KFL's existing LFG GCCS consists of a collection network of HDPE pipes, gas collection devices (i.e., gas wells), and an enclosed LFG flare that is designed to minimize and control emissions. The existing GCCS will be expanded by installing additional LFG extraction wells and related lateral piping in the areas of new waste. The expanded GCCS is designed to extract LFG at a sufficient rate to minimize subsurface migration and surface emissions.
- **Stormwater Management:** Stormwater is managed at KLF by controlled grading on the surface of the landfill and by maintaining an engineered system of drainage ditches, channels, pipes, and basins. Stormwater is diverted away from the active landfill cells to infiltration ditches around the perimeter of the landfill and an existing 2.5-acre stormwater infiltration basin. The stormwater management system was designed to manage runoff from a 25-year, 24-hour storm, as required by the solid waste regulations (HAR § 11-58.1-15(g)). Surface water drainage features would need to be modified slightly (i.e., increased upwards) to accommodate the increase in sideslope lengths and corresponding runoff flow velocities due to the proposed vertical increase.

KLF incorporates engineering and operational controls to minimize and avoid adverse impacts to the environment and public nuisances, including: waste acceptance and exclusion program, leachate management plan, groundwater and leachate monitoring, landfill gas monitoring plan, surface water management plan, access and traffic control, litter control, dust control, odor control, vector control, explosive gas control, spill prevention, control, and countermeasures plan, and emergency management procedures: fire, severe storms, earthquake, Injury accidents. These controls are detailed in KFL's Site Operations Manual, which would be amended to incorporate the Proposed Action, as necessary. KFL would continue to implement these engineering and operational controls under the Proposed Action to minimize the operational impacts. No substantial changes to KFL's operations are proposed.

Once evaluated through the Hawaii Revised Statutes (HRS) 343 environmental review process and permitted by the Hawaii Department of Health, the vertical expansion could be implemented immediately to meet the anticipated demands, as no construction is required to begin accepting waste within the Phase II footprint. Operation of the Phase II vertical expansion will begin once all approvals are received. Depending on refuse inflow rates and other operational considerations, the County would begin to landfill within the expanded vertical area by 2027.



Kaua'i

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